



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,646	10/17/2003	Hiroshi Mizusawa	243373US3	9818
22850	7590	07/25/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			CHEN, SOPHIA S	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/686,646

Applicant(s)

MIZUSAWA, HIROSHI

Examiner

Sophia S. Chen

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2005.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8-17 and 20-33 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-5, 8-17 and 20-33 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
 5) ☐ Notice of Informal Patent Application (PTO-152)
 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's arguments with respect to independent claims 1, 13, 27, and 31 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections – 35 U.S.C. §103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 8-17, 20-24, and 26-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amemiya et al. (US Pat. Pub. No. US 2002/0106212 A1, cited in Form PTO-892 with Paper No. 20050216) in view of applicant's admitted fact (page 10, lines 21-24 of the specification) and Asano et al. (US Pat. No. 5,371,578, cited in Form PTO-892 with Paper No. 20050216).

Amemiya et al. discloses an image forming apparatus, comprising: a cleaning apparatus 18/method comprising: a brush member (roller) 20 configured to contact and to remove toner particles from a member (a charge roller) 2; the brush member comprises a conductive member (paragraph [0024]) and a fiber material (nylon (emphasis added); paragraph [0036]); the brush member 20 is configured to be held by its own weight in contact with the member 2 and is configured to be driven by rotation of

Art Unit: 2852

the member 2 (paragraph [0025]); the brush member 20 comprises a plurality of bristles, and a length of the bristles is not greater than 2 mm (paragraph [0031] and Figure 2); the brush member 20 also comprises a plurality of bristles 20 including the conductive material, wherein the bristles 20 have a thickness of not greater than 5 deniers, and wherein a density of the bristles is at least 15000 bristles/cm² (paragraph [0033]); the member 2 comprises a charging device contacting the brush member 20, the brush member 20 configured to clean the charging device (paragraphs [0017] and [0024]); an image bearing body 1 contacting a blade member 11, the blade member 11 configured to clean the image bearing body 1 (paragraph [0020] and Figure 1); a transfer device 9 adapted to transfer an image to a recording sheet P (paragraph [0019] and Figure 1); and a removable process cartridge 14 comprising the cleaning apparatus 18 (paragraph [0021] and Figure 1).

Amemiya et al. differs from the instant claimed invention in not disclosing the brush member configured to remove negatively charged toner particles from the member; the fiber material that is positively chargeable when rubbed with the toner particles; the brush member has a resistance value between $1 \times 10^3 \Omega$ and $1 \times 10^8 \Omega$; and the conductive material comprises carbon.

On page 10, lines 21-24 of the specification, the applicant admits that nylon (emphasis added) being a member with positive charging series when the polarity of toner is negative.

Asano et al. discloses electrically conductive rayon fibers 21 having an electrical resistivity of about $1 \times 10^5 \Omega \cdot \text{cm}$ and contains conductive carbon powder (column 10,

lines 52-56), and the material may be rayon, nylon (emphasis added), etc. (column 11, lines 4-5).

Since the fiber material of Amemiya et al. is nylon that is capable of electrostatically (emphasis added) collecting toner (Amemiya et al., paragraph [0036]), and the applicant admits that the nylon material is positively chargeable, it would have been obvious that the toner particles are negatively charged.

Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the fiber material (rayon or nylon), resistance value, and carbon as taught by Asano et al. to the fiber material (nylon) of Amemiya et al. in view of the applicant's admitted fact to improve conductivity in order to attract more toner particles.

4. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amemiya et al. in view of applicant's admitted fact and Asano et al. as applied to claim 13 above, and further in view of Hiroshima et al. (EP 0 738 938 A1, cited in Form PTO-1449)

Amemiya et al. in view of applicant's admitted fact and Asano et al., as discussed above, differs from the instant claimed invention in not disclosing the brush member being configured to remove toner particles prepared by a polymerization method.

Hiroshima et al. discloses an image forming apparatus comprising a cleaning brush 13 configured to contact and to remove toner particles from a member 5 (column 23, line 57 to column 24, line 12; Figure 11); the brush member 13 comprising a conductive material (column 24, lines 11-12); the conductive material comprises carbon

Art Unit: 2852

(column 24, lines 14-16); and the brush member 13 is configured to remove toner particles prepared by a polymerization method (column 16, lines 11-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the polymerization method as taught by Hiroshima et al. to the toner particles of Amemiya et al. in view of applicant's admitted fact and Asano et al. to improve transfer efficiency (Hiroshima et al., column 16, lines 11-20).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Response to Arguments

6. Applicant's arguments filed 6/17/05 have been fully considered but they are not persuasive. Applicant points that claim 1 now recites that a brush member contacts and removes negatively charged toner particles from a member. The brush member includes a conductive material and a fiber material that is positively chargeable when rubbed with the toner particles, and the brush member has a resistance value between $1 \times 10^3 \Omega$ and $1 \times 10^8 \Omega$. Applicant argues that Amemiya, Kimura, Tombs, and Hiroshima do not disclose the above-noted claimed features of amended Claim 1. Applicant also mentions that independent Claims 13, 27, and 31 include subject matter substantially similar to what is recited in amended Claim 1.

The examiner agrees that the above-noted claimed features of amended Claim 1 are not disclosed in Amemiya, Kimura, Tombs, and Hiroshima, individually. However, combining Amemiya, Hiroshima, and lines 21-24 of page 10 of the current specification discloses the above-noted claimed features of amended Claim 1. See the above rejections.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sophia S. Chen whose telephone number is (571) 272-2133. The examiner can normally be reached on M-F (7:00-3:00) First Friday Off.

Art Unit: 2852

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sophia S. Chen
Primary Examiner
Art Unit 2852

Ssc
July 22, 2005